

General Description

This N-Channel MOSFET is produced using Cmos's advanced SGT process that has been especially tailored to minimize the on-state resistance and yet maintain superior switching performance.

Features

- Low On-Resistance
- 100% avalanche tested
- RoHS Compliant

Absolute Maximum Ratings

Symbol	Parameter	Value	Units
V_{DS}	Drain-Source Voltage	80	V
V_{GS}	Gate-Source Voltage	± 20	V
$I_D@T_C=25^\circ\text{C}$	Continuous Drain Current	140	A
$I_D@T_C=100^\circ\text{C}$	Continuous Drain Current	112	A
I_{DM}	Pulsed Drain Current	560	A
E_{AS}	Drain-Source Avalanche Energy ¹	940	mJ
$P_D@T_C=25^\circ\text{C}$	Total Power Dissipation	210	W
T_{STG}	Storage Temperature Range	-55 to 150	$^\circ\text{C}$
T_J	Operating Junction Temperature Range	-55 to 150	$^\circ\text{C}$

Thermal Data

Symbol	Parameter	Typ.	Max.	Unit
$R_{\theta JA}$	Thermal Resistance Junction-ambient(PCB mount)	---	65	$^\circ\text{C/W}$
$R_{\theta JC}$	Thermal Resistance Junction-case	---	0.60	$^\circ\text{C/W}$

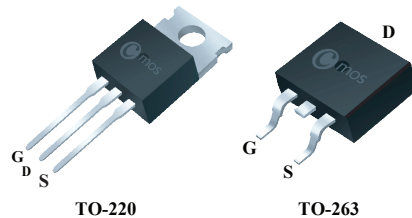
Product Summary

BVDSS	$R_{DS(on)}$ max.	ID
80V	3.5m Ω	140A

Applications

- Synchronous Rectification for ATX/Server/Telecom PSU
- Battery Protection Circuit
- Motor Drives and Uninterruptible Power Supplies

TO-220/263 Pin Configuration



Type	Package	Marking
CMP200N08A	TO-220	CMP200N08A
CMB200N08A	TO-263	CMB200N08A

Electrical Characteristics ($T_J=25^\circ\text{C}$, unless otherwise noted)

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
BV_{DSS}	Drain-Source Breakdown Voltage	$V_{GS}=0V$, $I_D=250\mu A$	80	---	---	V
$R_{DS(ON)}$	Static Drain-Source On-Resistance	$V_{GS}=10V$, $I_D=50A$	---	---	3.5	m Ω
$V_{GS(th)}$	Gate Threshold Voltage	$V_{GS}=V_{DS}$, $I_D=250\mu A$	2	---	4	V
I_{DSS}	Drain-Source Leakage Current	$V_{DS}=80V$, $V_{GS}=0V$	---	---	1	μA
I_{GSS}	Gate-Source Leakage Current	$V_{GS}=\pm 20V$, $V_{DS}=0V$	---	---	± 100	nA
g_{fs}	Forward Transconductance	$V_{DS}=10V$, $I_D=30A$	---	33	---	S
R_g	Gate Resistance	$V_{DS}=0V$, $V_{GS}=0V$, $f=1\text{MHz}$	---	1.8	---	Ω
Q_g	Total Gate Charge	$I_D=50A$	---	49	---	nC
Q_{gs}	Gate-Source Charge	$V_{DD}=40V$	---	16	---	
Q_{gd}	Gate-Drain Charge	$V_{GS}=0V$ to $10V$	---	12	---	
$T_{d(on)}$	Turn-On Delay Time	$V_{DD}=40V$	---	18	---	ns
T_r	Rise Time	$I_D=75A$	---	11	---	
$T_{d(off)}$	Turn-Off Delay Time	$R_G=3\Omega$	---	43	---	
T_f	Fall Time	$V_{GS}=10V$	---	10	---	
C_{iss}	Input Capacitance	$V_{DS}=40V$, $V_{GS}=0V$, $f=1\text{MHz}$	---	3900	---	pF
C_{oss}	Output Capacitance		---	1800	---	
C_{rss}	Reverse Transfer Capacitance		---	110	---	

Diode Characteristics

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
I_S	Continuous Source Current	$V_G=V_D=0V$, Force Current	---	---	140	A
I_{SM}	Pulsed Source Current		---	---	560	A
V_{SD}	Diode Forward Voltage	$V_{GS}=0V$, $I_S=30A$, $T_J=25^\circ\text{C}$	---	---	1.2	V

Notes:

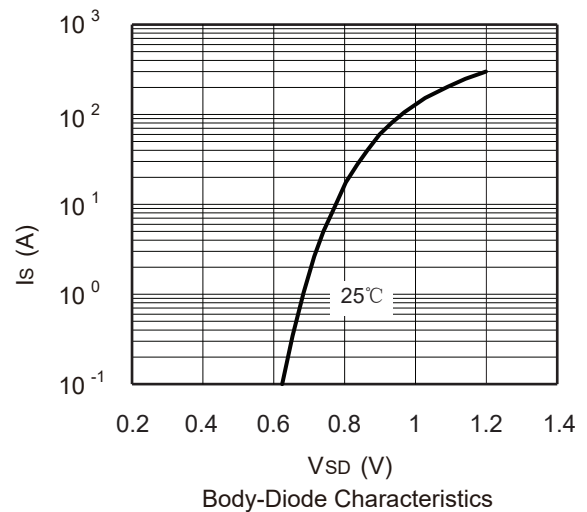
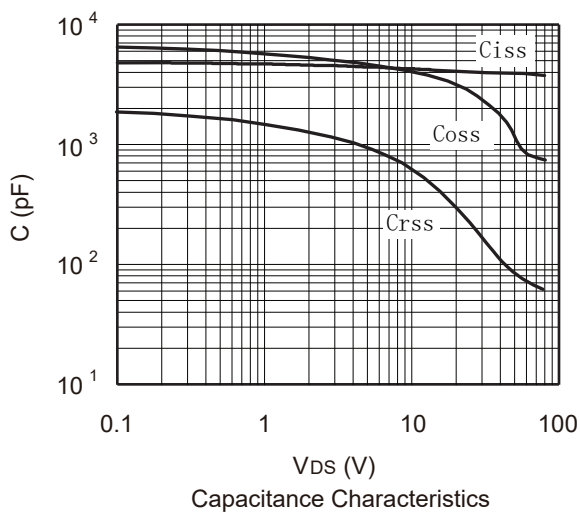
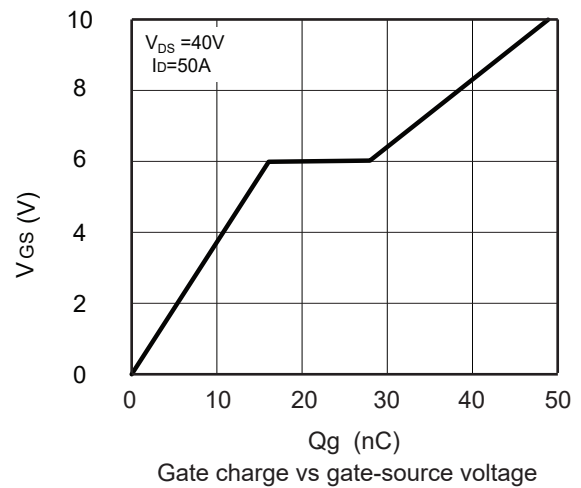
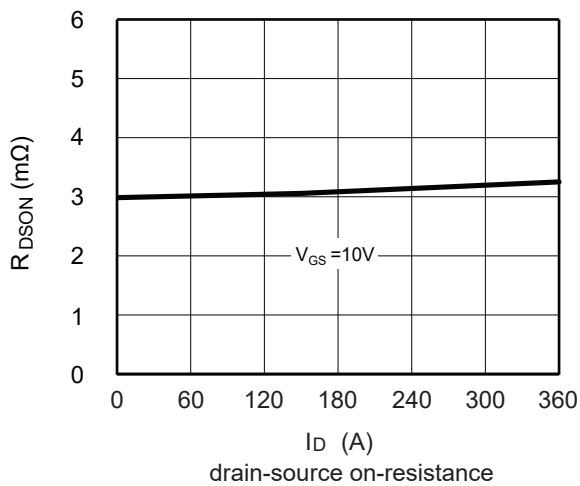
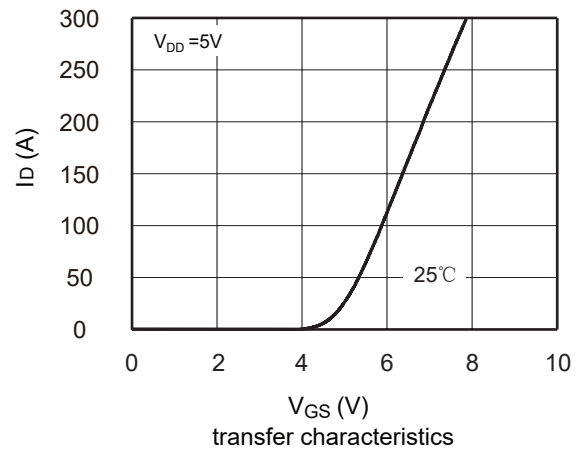
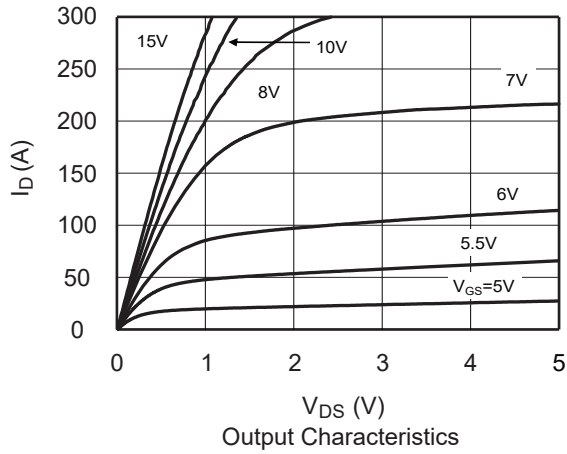
1. The EAS data shows Max. rating .The test condition is $V_{DS}=40V$, $V_{GS}=10V$, $L=1\text{mH}$, $I_{AS}=43.4A$.

This product has been designed and qualified for the consumer market.

Cmos assumes no liability for customers' product design or applications.

Cmos reserves the right to improve product design, functions and reliability without notice. Please refer to the latest version of specification.

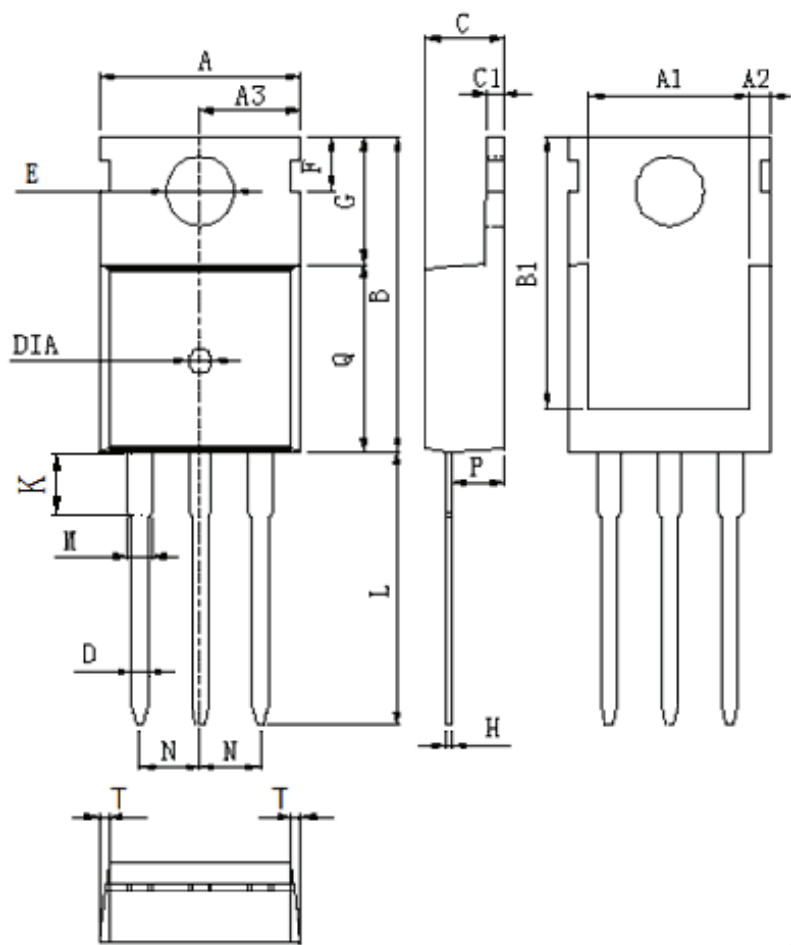
Typical Characteristics



Package Dimension

TO-220

Unit :mm



DIM	MILLIMETERS
A	10.0±0.3
A1	8.64±0.2
A2	1.15±0.1
A3	5.0±0.2
B	15.8±0.4
B1	13.2±0.3
C	4.56±0.1
C1	1.3±0.2
D	0.8±0.2
E	3.6±0.2
F	2.95±0.3
G	6.5±0.3
H	0.5±0.1
K	3.1±0.2
L	13.2±0.4
M	1.25±0.1
N	2.54±0.1
P	2.4±0.3
Q	9.0±0.3
T	W:0.35
DIA	⌀1.5 (deep 0.2)

Unit :mm

